

WHAT IS CLAIMED IS:

1. In a wireless communication system comprising a Base Station connected with a mobile unit, a method of detecting the presence of a specific mobile unit in a coverage area of at least one neighboring Base Station, comprising:

the Base Station connected with the mobile unit provides, to the at least one neighboring Base Station, information about the connection with the mobile unit, including rough TOD and a device address for the mobile unit;

at the at least one neighboring Base Station, receiving information and generating a list of frequencies in which the mobile unit is likely to transmit; and

at the at least one neighboring Base Station, checking for a signal transmitted by the mobile unit.

2. Method, according to claim 1, further comprising:

at the neighboring Base Station, monitoring frequencies that are not blocked by interferences ()

3. Method, according to claim 2, further comprising:

for each frequency that is monitored, maintaining a histogram of a number of hops that have been detected in a certain duration of time, and their average signal-to-noise ratios.

4. Method, according to claim 3, further comprising:

determining a measure of spectral cleanliness of a frequency being monitored as a function of signal-to-noise ratios (SNRs) of the hops.

5. Method, according to claim 4, further comprising:
monitoring a group (M) of frequencies that have a best cleanliness measure
most of the time.
6. Method, according to claim 5, further comprising:
periodically monitoring a frequency which is not in the group of
frequencies having the best cleanliness measure.
7. Method, according to claim 1, wherein the mobile unit is a device selected
from the group consisting of:
telephone handset, standard cordless telephone handset, cellular telephone
handset, personal data device, personal digital assistant (PDA), computer, laptop
computer, e-mail server, a device utilizing point-to-point protocol (PPP) to the Internet
via a central remote access server, a headset, a personal server, a wearable computer, a
wireless camera, and a mobile music player.
8. Method, according to claim 1, further comprising:
providing communication links between the Base Stations, wherein the
communication links between the Base Stations are selected from the group consisting of
RF links and land lines; and
transferring connection status information and rough synchronization
information between the Base Stations over the communications links.
9. Method, according to claim 1, wherein:
the Base Stations and the Switch are connected via a wired or wireless
local area network (LAN).
10. Method, according to claim 1, wherein:
the wireless communication system comprises a wireless private branch
exchange (WPBX) handling calls from mobile units comprising handsets.